

Category: GOVERNANCE

1. Palliative care, a way to reduce financial distress for people with life limiting diseases

Syllabus: Government policies and interventions aimed at development in various sectors. Welfare schemes for vulnerable sections of the population by the Centre and the States and the performance of these schemes; mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections.

Mains: Palliative care as a means to reduce financial distress.

Context

The article addresses the financial burden imposed by non-communicable diseases (NCDs) on Indian patients, highlighting the need for palliative care to alleviate this burden.

Introduction

- Many Indians face severe financial burdens due to out-of-pocket healthcare expenses.
- Non-communicable diseases (NCDs), such as cancer, cardiac disease, renal failure, and stroke, require lifelong treatment and periodic check-ups.
- The financial implications of treating NCDs can lead to “financial toxicity,” including bankruptcy, decreased treatment satisfaction, and poor quality of life.

Challenges in Healthcare Financing

- India's healthcare system spends only 1.35% of its GDP on government health services, leaving patients to bear most health expenses.
- Even in government hospitals where treatment is meant to be free, the costs of travel, purchasing medicines, and loss of wages due to time off work contribute to financial toxicity.
- A study reported that cancer patients spend ₹8,035 per outpatient visit and ₹39,085 per hospitalisation in tertiary care hospitals.
- Last-stage cancer patients, in particular, face impoverishment due to healthcare expenses.

Importance of Palliative Care

- Palliative care focuses on improving the quality of life for those with life-limiting illnesses, alleviating symptoms, and addressing social and economic realities.
- Early initiation of palliative care can reduce healthcare expenditures by up to 25%.
- Palliative care includes outpatient visits, inpatient care, and home-based care.
- Vocational rehabilitation and social reintegration are essential components of palliative care, helping patients maintain their dignity and independence.

Lack of Investment in Palliative Care

- Awareness about palliative care among healthcare workers and the general public in India is low.
- Palliative care is not covered by most insurance schemes.
- Public health centres struggle to provide palliative care due to poor funding, while private healthcare largely neglects it.
- Non-profit organisations often meet palliative care needs in India.

Incorporating Palliative Care

- Consistent funding for the National Program for Palliative Care needed to be introduced to allow long-term planning.
- Investing in palliative care can save money for patients and providers, improving bed utilisation and generating goodwill for corporate hospitals.
- Prioritising palliative care is a moral obligation for the healthcare system to provide support for individuals with life-long and life-limiting illnesses.

Nut Graf: Non-communicable diseases (NCDs) in India result in significant financial strain on patients and their families, emphasising the critical role of palliative care in improving patients' quality of life, reducing financial hardship, and generating long-term benefits for healthcare providers.

Category: ENVIRONMENT AND ECOLOGY

1. The Indian Himalayan Region needs its own EIA

Introduction

- The Teesta dam breach in Sikkim and the recent floods and landslides in the Himalayas highlight the negative impact of our development model on the environment.
- It is essential to re-evaluate the environmental impact of development efforts.

Environment Impact Assessment (EIA)

- Defined by UNEP as a tool to identify environmental, social, and economic impacts of a project before implementation
- Evaluates alternatives and analyzes potential environmental impacts in different scenarios
- It also helps in deciding appropriate mitigation strategies
- However, the EIA requires comprehensive and reliable data for predicting future impacts

Origins of EIA in India

- India introduced EIA in 1976-77 with the Planning Commission directing the Department of Science and Technology to assess river valley projects from an environmental perspective.
- It was made mandatory for specified new projects and expansions/modernizations through the Environment (Protection) Act 1986.
- First EIA notification issued in 1994, amended 12 times in 11 years before being replaced by EIA 2006 notification
- EIA 2006 notification decentralized the environment clearance (EC) process and gave state governments powers to issue EC in certain cases
- Draft EIA notification floated in 2020 for public comments, sparking controversy over concerns of being pro-industry and compromising ecological concerns
- EIA Notification 2006:
 - Lays down procedure and institutional setup for giving environmental clearance for projects requiring such clearance
 - Projects listed in the schedule require prior EC, while others do not require an EIA
 - Categorizes projects into various heads such as mining, extraction of natural resources and power generation, and physical infrastructure
 - Threshold limits for EIA are the same across the country.
- Draft EIA notification 2020:
 - It reduced the time for public hearings from 30 to 20 days.
 - The classification of projects, such as into A, B1, and B2, are exempted from public scrutiny.
 - Post-clearance compliance.
 - Earlier, in the 2006 notification, compliance reports were to be submitted every six months, but through this proposal, the submission was proposed to be made annually.

- Report Prepared Solely by Project Proponents.
- The EIA Notification 2020 excludes reporting of violations and non-compliance by the public.
- Post-facto clearance: If a project has been operating without environmental clearance before the notification, it can be allowed to apply for clearance.
- Firms will have to pay the penalty if they are found violating the terms of their establishment.

Need for a unique assessment of the Himalayan region

- The regulatory system uses a graded approach to environmental impact assessments (EIA) based on location, with different levels of stringency for protected forests, reserved forests, national parks, and critical tiger habitats.
- However, the Integrated Himalayan Region (IHR) is treated similarly to other parts of the country despite its unique ecological importance and vulnerability.
- IHR is a sensitive region providing ecosystem services and acting as a "water tower" for the entire country, but it is not given special consideration in the EIA process.
- The region's vulnerability to extreme weather conditions, such as heavy rains, flash floods, landslides, and seismic activity, make it particularly susceptible to environmental damage.
- Climate change has further increased these vulnerabilities but there is no mention of differentiated environmental standards for projects located in the IHR.
- Increasing frequency of disasters in the Himalayan states due to extreme weather events highlights the need for more stringent environmental regulations in the region.
- Addressing the needs of the IHR could be done at all four stages of the EIA process – screening, scoping, public consultation, and appraisal – by ensuring projects and activities requiring Environmental Clearance (EC) in mountainous regions are aligned with the ecological needs of the region.

Institutional and Regulatory Concerns

- **Lack of Independent National Regulator:** In 2011, the Supreme Court of India highlighted the absence of an independent national regulator for environment clearances.
- **Reactive:** The current Environment Impact Assessment (EIA) process is reactive i.e reacting to development proposals instead of anticipating them and being proactive
- **Bias:** The EIA process is often funded by project proponents, which can lead to biased assessments that favor the project.
- **Lack of Holistic assessment:**
 - The EIA process typically focuses on individual projects, without considering the cumulative impact of multiple projects in the same area.
 - It also does not fully consider the environmental impact of a project's subcomponents or related developments.
- **Lack of commitment:** The EIA process is often seen as a formality, with project developers treating it as a box-ticking exercise to get environment clearance.

Conclusion: Alternative tools like Strategic Environmental Assessment could help regulators better understand and address the cumulative impact of development in the IHR.

Nut Graf: The Indian Himalayan Region (IHR) needs its own EIA process due to its unique ecological importance and vulnerability. The current EIA process does not adequately address the region's fragility, susceptibility to extreme weather conditions, and the cumulative impact of development. To address these concerns, the EIA process in the IHR should be proactive, with a focus on independent oversight.

Category: SCIENCE AND TECHNOLOGY

2. Confronting the long term risks of Artificial Intelligence

Syllabus: Science and Technology- Developments and their Applications and Effects in Everyday Life.

GS- III

Category- Science & Technology

Prelims- Runaway AI, AI Index

Mains- Risks associated with development of AI

Context:

- The understanding of AI risk can change dramatically as the technology's capabilities increase.
- Sharing personal information openly was once risk-free but now poses dangers in the digital age of cyberattacks and data breaches.

Risks associated with AI

- **Concerns About AI and Its Impact on Humanity**
 - Historian Yuval Noah Harari has raised concerns about the integration of AI and biotechnology. He feels that it could lead to the manipulation of human emotions, thoughts, and desires, fundamentally changing human existence.
 - Over 350 AI professionals have expressed concerns about the potential risks posed by AI technology.
 - There are also existential risks from advanced AI systems, such as the disruption of critical infrastructure like water and electricity, and the possibility of "runaway AI" causing catastrophic consequences.
 - Runaway AI are artificial intelligence (AI) systems that act independently of the human developers and may be harmful to both individuals and society as a whole.
- **Alignment of AI with Human Values**
 - Some people view AI as a potential catalyst for extinction due to its ability to rapidly improve itself and become a super-intelligence that surpasses human intelligence.
 - The alignment of AI with universally accepted human values is a major challenge.
 - Uncontrolled AI growth driven by market pressures might lead to neglecting safety considerations and raising concerns.
- **Regulatory Approaches and Challenges**
 - The lack of a unified global approach to AI regulation can be detrimental to ensuring the long-term safety and ethical deployment of AI technologies.
 - The AI Index from Stanford University shows that 127 countries have passed 37 laws related to AI, but there is no consistent approach to regulation.
 - The European Union's AI Act takes a "risk-based" approach. It identifies critical infrastructure where AI deployment could be risky.
 - Tying risk solely to the deployment area might overlook certain risks, requiring a more comprehensive view of AI risks for effective regulation.
- **Military AI and International Treaties**
 - There is a lack of international collaboration and cohesive action on AI regulation.
 - Unregulated AI advancements in some countries, like China, could lead to developments that don't align with global ethical standards, posing risks of destabilization and conflict.
 - It could also prompt a "race to the bottom" where safety considerations are compromised for rapid development and deployment.
 - The convergence of AI technology and warfare thus increases long-term risks.

Way Forward

- Long-term risks involve broader questions about AI's role in society and implications for humanity.
- Addressing this requires a multi-faceted approach that identifies current challenges and future consequences.
- Nations must clearly define unacceptable use of AI and enforce strict guidelines for its role in conflict.
- International treaties like the Treaty on the Non-Proliferation of Nuclear Weapons and the Chemical Weapons Convention could act as examples for establishing global norms for AI in warfare
- The decisions made today regarding AI will impact the future we inherit.

Nut Graf: AI risks and challenges for humanity are multifaceted and evolving. Existential risks from advanced AI systems, such as runaway AI, and the alignment of AI with human values are key concerns. International regulation aligned with ethical norms are necessary to ensure safe use of AI.

1. Court declines abortion plea, says it can't 'stop heartbeat' of viable foetus

Syllabus: GS 2- Governance Prelims: Legal aspects of abortion and court decisions related to a viable foetus.

Introduction

- The plea of a married woman to terminate her 26-week pregnancy through medical means has been denied by the Supreme Court of India.
- The Court's decision is based on the premise that the pregnancy is not an immediate threat to the life of the woman or the foetus.
- The Medical Termination of Pregnancy Act allows abortion only in cases where the pregnancy poses a physical and immediate danger to the woman's life and health.
- The case raises complex ethical and legal questions about reproductive rights and the well-being of the unborn child.

Details of the Case

- The woman, who is already a mother of two, claimed she was physically, emotionally, mentally, financially, and medically unable to carry, deliver, or raise a child.
- The government presented medical reports showing a healthy foetus with no abnormalities and argued that the woman was past the abortion limit of 24 weeks under the Act.
- The Court's concern extended to the rights and well-being of the unborn child. The choice presented was between preterm or full-term delivery, with a full-term delivery considered better for the child's health and survival.
- Senior advocate Colin Gonsalves argued that the woman's right was absolute, emphasising that international law recognises no right of the foetus or unborn child.

Conclusion

- The Supreme Court's decision in this case reflects the complex legal and ethical considerations surrounding late-term abortions.
- It underscores the importance of the viability of the foetus and the immediate health risk to the woman's life in such decisions.
- The case has sparked a broader conversation about reproductive rights and the legal framework governing abortions in India.

2. SC refers electoral bonds case to 5-judge Constitution Bench

Syllabus: GS 2- Polity Prelims: Electoral bonds

Introduction

- Chief Justice of India D.Y. Chandrachud has referred the challenge to the validity of the electoral bonds scheme to a Constitution Bench of five judges.
- The scheme allows for anonymous donations to political parties, and its legality has been a matter of contention.
- The case has been pending for over eight years in the Supreme Court.

Key Points

- The challenge to the electoral bonds scheme was referred to a larger Constitution Bench due to the importance of the issue.
- The case will be listed for a hearing on October 31, signalling that the court is committed to addressing the matter promptly.
- The petitioners argue that the scheme legalises anonymous donations to political parties, violating citizens' right to information about political funding and potentially promoting corruption.
- The case involves potential violations of Articles 19, 14, and 21 of the Constitution.
- The Constitution Bench may not immediately address the question of whether the scheme passed as a Money Bill but may await a seven-judge Bench's decision on this issue.

Background

- The electoral bonds scheme has been contentious as it enables anonymous and sanitised political donations, limiting public transparency about the sources of funding.
- Amendments in the Companies Act allowed companies to donate to political parties via electoral bonds while maintaining anonymity.
- Critics argue that the scheme, established through Finance Acts in 2016 and 2017, opens the doors to unlimited political donations.

Conclusion

- The reference to a Constitution Bench underscores the significance of the electoral bonds scheme challenge.
- The court's decision to proceed promptly signals its intent to address the long-standing issue of anonymous political donations and the potential consequences for transparency and corruption in political funding.

1. Gaganyaan's test flight to commence at 7 a.m. on Oct. 21

Introduction

- The Flight Test Vehicle Abort Mission-1 (TV-D1) of the Gaganyaan mission is set to take place on October 21, 2023.
- This test will demonstrate the performance of the Crew Escape System.
- The TV-D1 mission is part of India's space exploration program, led by the Indian Space Research Organisation (ISRO).

Details of TV-D1 Mission

- The TV-D1 mission will take place between 7am and 9am from the Satish Dhawan Space Centre in Sriharikota.
- It is designed to test the Crew Escape System, a critical component for astronaut safety.
- The Crew Module (CM), where astronauts are housed, is at different stages of development.
- The CM for TV-D1 is an unpressurized version with a size and mass similar to the actual Gaganyaan CM.
- It comprises deceleration systems, recovery mechanisms, parachute systems, recovery assistance tools, actuation systems, and avionics systems operating in a dual redundant mode.

- The CM is extensively instrumented to capture flight data for system performance evaluation.
- Following the test, the Crew Module will be retrieved from the Bay of Bengal with the assistance of a specialised vessel and a team of divers from the Indian Navy.

Vajiram and Ravi

The Indian Himalayan Region Needs Its Own EIA

Context

- Recent Teesta dam breach in Sikkim and floods and landslides in Himachal Pradesh are a stark reminder of the havoc **India's development model is wreaking on environment and ecology especially in the mountains.**
- Therefore, it is imperative to **assess the worthiness of any significant human endeavour in terms of its impact on the environment.**

Environment Impact Assessment (EIA) And Its Basis

- Environment Impact Assessment (EIA)**
 - This is a process defined by the UN Environment Programme (UNEP) as a **tool to identify the environmental, social, and economic impacts of a project before it is implemented.**
 - This tool compares various **alternatives for the proposed project, predicts and analyses all possible environmental repercussions** in various scenarios.
 - The EIA also helps decide appropriate mitigation strategies.
- Basis of an EIA**
 - The EIA process would need comprehensive, reliable data and would deliver results only if it is designed to seek the most appropriate, relevant, and reliable information regarding the project.
 - Hence, **the base line data based on which future likely impacts are being predicted are very crucial.**

A Background of EIA Mechanism in India

- Precursor to the EIA**
 - In India, a **precursor to the EIA began in 1976-77** when the Planning Commission directed the Department of Science and Technology to assess the river valley projects from the environmental point of view.
 - It was **later extended for all those projects that required approval from the Public Investment Board.**
 - Environment clearance then was just an administrative decision of the central government.
- First EIA Notification**
 - On January 27, 1994, the Union Ministry of Environment, Forests and Climate Change (MoEF&CC) under the Environment (Protection) Act 1986 (EPA), **promulgated the first EIA notification.**
 - It made Environmental Clearance (EC) mandatory for setting up some specified new projects and also for expansion or modernisation of some specific activities.
- EIA Notification, 2006**
 - The notification of 1994 saw 12 amendments in 11 years **before it was replaced by the EIA 2006 notification.**
 - The hallmark of the 2006 notification was the **decentralisation of the process of EC.**
 - State governments were also given powers to issue EC in certain cases. The 2006 notification has also been amended, in the name of fine-tuning the process several times.
 - The EIA 2006 notification lays down the procedure** as well as institutional set-up to give environmental clearance for the projects that need such clearance as per this notification.
 - Only projects enumerated in the schedule attached to the notification require prior EC.
- Draft 2020 Notification**
 - The MoEF&CC floated a draft EIA in 2020 for public comments.

- The draft faced backlash and was criticised as it was perceived to be pro industry and compromising the ecological concerns.

Problems Associated with India's EIA Notifications

- Threshold Limits Required are Same Across the Country**
 - This notification has categorised projects under various heads such as mining, extraction of natural resources and power generation, and physical infrastructure.
 - Unfortunately, **the threshold limits beyond which EIA is warranted for all these projects is the same across the country.**
- No Emphasis on Special Needs of Indian Himalayan Region (IHR)**
 - Despite all levels of government being acutely aware of the special needs of the IHR, the region's **vulnerabilities and fragility have not been considered separately.**
 - While some industries mentioned in the schedule to the notification cannot be set up in the IHR States due to the industrial policies of the respective States, other industries and projects have to meet the same threshold in the rest of the country.
 - Even the draft 2020 notification which was floated for public discussion does not treat the IHR differently** than the rest of the country and is not cognisant of the special developmental needs of IHR

Factors Ailing the India's EIA Mechanism

- Flawed Graded Approach of EIC Notification, 2006**
 - The Indian regulatory system **uses a graded approach, a differentiated risk management approach.**
 - It depends on whether a project is coming up within a protected forest, a reserved forest, a national park, or a critical tiger habitat.
 - The strictness of environmental conditions proposed in the terms of references at the scoping stage of the EIA process is proportionate to the value and sensitivity of the habitat being impacted by the project.
 - One unfortunate miss from this graded approach for differentiated risk management has been the IHR.**
- No Regulator at the National Level**
 - There is no regulator at the national level, **as suggested by the Supreme Court of India in 2011 in Lafarge Uliam Mining vs Union of India.**
 - The Judgement suggested to carry out an independent, objective, and transparent appraisal and approval of the projects for ECs and **to monitor the implementation of the conditions laid down in the EC.**
- EIA Process is Reactionary**
 - The EIA process now **reacts to development proposals rather than anticipate them.**
 - As they are financed by the project proponent, there is an inclination in favour of the project.
- Does Not Consider Cumulative Impact:** The process now does not adequately consider cumulative impacts as far as impacts caused by several projects in the area are concerned.
- Box Ticking Approach**
 - In many cases, **the EIA is done in a box ticking approach manner** as a mere formality that needs to be done for EC before a project can be started.
 - The consequences of all these limitations are amplified in the IHR as on top of the inherent limitations of the process, the EIA process is not at all cognisant of the special needs of the IHR.

Way Forward

- Place the IHR's Vulnerability and Fragility at the Centre of EIA**
 - While categorising projects it is important that the **impacts of all such projects and activities are seen in the IHR** in the context of this region's fragility and vulnerability.
 - Himalayas are inherently vulnerable to extreme weather conditions such as heavy rains, flash floods, and landslides and are seismically active.
 - Climate change has added another layer of vulnerability to this ecosystem.
- Address the Special Needs of IHR**
 - The needs of these mountains could be addressed at **all four stages of the EIA (screening, scoping, public consultation, and appraisal).**

- The four stages will be effective if projects and activities requiring EC in mountainous regions are made proportionate with the ecological needs of this region.
- **Introduction of a Liability Clause for Projects in IHR**
 - General conditions mandated for all projects at the end of the notification could also have had a clause about the IHR or mountains above a certain altitude, or with some specified characteristics that could increase the liability of the project proponent.

Conclusion

- The increasing frequency with which the Himalayan States are witnessing devastation every year after extreme weather conditions shows that the region is already paying a heavy price for this indifference.
- If used diligently, the EIA could be the most potent regulatory tool in the arsenal of environmental governance to further the vision of sustainable development in the country. [Editorial Analysis](#)

Setu Bandhan Scheme

Recently, the Union Minister for Road Transport and Highways said that Setu Bandhan Scheme approval has been granted for seven bridge projects in Arunachal Pradesh under the Central Road and Infrastructure Fund (CRIF).



About the Setu Bandhan Scheme:

- It is an initiative of the **Ministry for Road Transport and Highways**.
- **Objective:** It has been introduced to improve inter-state connectivity, especially in rural areas at the borders where state roads do not get the required attention.
- It is aimed at replacing **railway line Level Crossings** (LCs) with **Road Over Bridges (ROBs)/Rail Under Bridges (RUBs)** in states.

Key facts about Central Road and Infrastructure Fund

- It was established in 2000 under the **Central Road Fund Act, 2000**.
- It was previously known as **Central Road Fund**.
- Its subject matter belongs to the **Ministry of Finance**.
- The fund consists of a cess imposed along with excise duty on petrol and diesel.
- The Central Road Fund Act, 2000, was amended in 2018 and its objectives are as follows
 - To use proceeds of the road cess under CRIF to finance other infrastructure projects such as **waterways, some portion of the railway infrastructure, and even social infrastructure**, including education institutions and medical colleges.

[Government Schemes and Initiatives](#)

Buff-breasted Sandpiper

Recently, a rare bird from the arctic tundra, Buff-breasted sandpiper, was sighted in Kannur, Kerala.



About the Buff-breasted Sandpiper:

- It is one of the most delicately beautiful of the shorebirds.
- It breeds in the open arctic tundra of North America and usually in winters in South America.
- **Habitat:** Shortgrass prairies; in summer, tundra ridges. Migrants in North America mostly live on dry, open ground, such as prairies, pastures,
- The male Buff-breasted Sandpipers gather in groups on **display territories called leks**, where they flash their eye-catching underwings to compete for females' attention.
- It is a **champion long-distance migrant**, leaving high-Arctic dry tundra nesting grounds and migrating thousands of miles to winter on the grasslands of Brazil, Argentina, Uruguay, and Paraguay.
- **Conservation status**
 - **IUCN:** Near Threatened

Key facts about Arctic tundra

- It is the northernmost biome, which is a vast, dry, rocky place with few trees.
- It covers the land north of the **Arctic Circle up to the polar ice cap**.
- It reaches as far south as the **Hudson Bay area of Canada** and the northern part of Iceland.
- The word "tundra" comes from the Finnish word tunturi. This word means 'treeless plain'.
- One important characteristic of the **tundra is the permafrost**. The word "permafrost" is short-form for the word "permanently frozen".
- The ground in the arctic tundra tends to be rocky, and the soil has few nutrients. This is because the organic matter there breaks down very slowly.
- Despite the lack of trees, this biome is **still considered a major carbon sink**.
- This is due to the large amounts of organic matter found in deposits of peat and humus.
- **Temperature:** Temperatures range from **15.5 °C in summer to -60 °C** in winter. Mean temperatures are below 0°C for six to 10 months of the year.
- **Annual precipitation:** The annual precipitation is around **150 to 250mm**. Most of this precipitation does not evaporate due to the low temperatures. [Environment](#)

Mt Vesuvius

Recently, researchers deciphered ancient scroll buried in the ashes of Mount Vesuvius with the help of artificial intelligence.



About Mt. Vesuvius:

- It is an **active volcano** that rises above the Bay of Naples on the plain of **Campania in southern Italy**.
- It is the **only active volcano** in mainland Europe.
- The volcano is classified as a **complex stratovolcano** because its eruptions typically involve explosive eruptions as well as pyroclastic flows.
- A pyroclastic flow is a high-density mix of hot lava blocks, pumice, ash, and volcanic gas.
- It is most famous for the 79 AD eruption that destroyed the Roman cities of Pompeii and Herculaneum.

- It is part of the Campanian volcanic arc, a line of volcanoes that formed over a subduction zone created by the convergence of the African and Eurasian plates.
- This subduction zone stretches the length of the Italian peninsula and is also the source of other volcanoes like Mount Etna, the Phlegraean Fields (Campi Flegrei), Vulcano, and Stromboli.
- Under Vesuvius, the lower part of the subducting slab has torn and detached from the upper part to form what is called a "slab window."
- This makes Vesuvius' rocks slightly different chemically from the rocks that erupted from the other Campanian volcanoes. [Geography]

Bright Transient Survey Bot (BTsbot)

For the first time, artificial intelligence (AI) completely automated the process of detecting a supernova with no human intervention.



About the Bright Transient Survey Bot:

- It is a **machine-learning algorithm** which has been trained by using over 1.4 million images from nearly 16,000 sources.
- It detected the newly discovered supernova named SN2023tyk in data from the Zwicky Transient Facility (ZTF)
- **How does it work?**
- It automatically requested the potential supernova's spectrum from **Palomar Observatory**, where another robotic telescope, the Spectral Energy Distribution Machine (SEDM), performed an in-depth observation to obtain the source's spectrum.
- This new system not only allows automation of the entire search for new supernovae across the night sky but also **eliminates human error and dramatically increases speed**.
- It searched, detected, confirmed, classified, and announced the findings without any human intervention

What is artificial intelligence?

- Artificial intelligence (AI) refers to the **simulation or approximation of human intelligence in machines**.
- The goals of artificial intelligence include computer-enhanced learning, reasoning, and perception.
- AI is being used today across different industries, from finance to healthcare. [Science & Tech]

What is Iron Beam?

Videos have recently surfaced online allegedly showing Israel testing its new laser-based missile defence system, known as Iron Beam.



About Iron Beam:

- The Iron Beam, also known as **Magen or Light Shield**, is a new **laser-based missile defence system developed by Israel**.
- It is a **directed-energy weapon** air defence system that fires **powerful beams of light** that can **destroy fast-moving projectiles**.

- **Built by Rafael Advanced Defense Systems**, Iron Beam was first **unveiled in 2014**.
- The system can **intercept hostile rockets, drones, artillery**, and even mortar shells.
- Its operational **range extends up to 7 km (4.3 miles)**.
- **Advantages:**
 - With a **continuous energy supply** for the laser, the advantage lies in **never depleting ammunition**, ensuring a sustained capability for defence.
 - The **absence of conventional ammunition** will directly result in **significant cost savings**.
- **Disadvantages:**
 - **Diminished effectiveness during restricted visibility**, such as heavy cloud cover or adverse weather conditions.
 - It **cannot operate effectively in wet conditions**—the more moisture in the atmosphere, the more water particles absorb the laser's energy.
 - Iron Beam **requires a direct line of sight** between the system and its target, making its placement far more critical.
 - It also has a **much slower rate of fire**, requiring five seconds or so to transmit sufficient energy to destroy its target. [Defence & Security]

What is INS Beas?

The defence ministry recently signed a ₹ 313 crore contract with Cochin Shipyard Limited (CSL) for the mid-life "upgrade and re-powering" of the frontline frigate INS Beas.



Why in the news?

- It is the first **Brahmaputra Class Frigate** to be **re-powered from steam to diesel propulsion**.
- After completion of Mid Life Upgrade and Re-Powering in 2026, INS Beas will join the active fleet of the Indian Navy, with a modernised weapon suite and upgraded combat capability.

About INS Beas:

- INS Beas (F37) is a **Brahmaputra-class frigate of the Indian Navy**.
- It was **built at the Garden Reach Shipbuilders and Engineers (GRSE), Kolkata**.
- It was **commissioned on 11th July, 2005**.
- It is the **second ship** in the Indian Navy to bear the name. The first was a Leopard-class frigate commissioned in 1960 and scrapped in 1992.
- **Role:** It is a **versatile warship** capable of a range of missions, including **anti-aircraft, anti-submarine, and anti-ship warfare**. It is also used for patrolling, surveillance, and providing security to India's maritime interests.
- **Features:**
 - The **design and construction** of the ship are **entirely Indian** and are a modification of the Godavari-class frigate.
 - It has a **displacement of about 3,850 tonnes**.
 - The ship has a **length of 126 metres** (413 feet) and a **beam width of 14.5 metres** (48 feet).
 - **Propulsion:** 2 steam turbines

- It is capable of reaching **speeds of over 30 knots**, making it swift and agile in naval operations.
- It is fitted with an array of **modern sensor suites** and matching weapon systems. [\[Defence & Security\]](#)

- Angel Tax
- News Summary

Key Facts about Amazon River

The Amazon River fell to its lowest level in over a century recently.



About the Amazon River:

- It is the **world's largest river by water volume and width**.
- It is the **second-longest river in the world after the Nile**.
- **Course:**
 - Its journey begins **high in the Andes Mountains**.
 - The river **then makes its way east through** thousands of miles of **rainforests and lowlands until it empties into the Atlantic Ocean** on the northeastern **coast of Brazil**.
- **Length: 6,400 km**
- **Width:** During the **dry season**, the width of the Amazon River can be **4 km to 5 km** in some places – and in the **wet season**, this can increase to **50 km**.
- **Drainage:**
 - It has the **largest drainage area of any river system**.
 - Its **watershed spans** the countries of **Brazil, Peru, Ecuador, Colombia, Venezuela, and Bolivia**.
 - Roughly **two-thirds of the Amazon's main stream** and by far the largest portion of its **basin are within Brazil**.
- **Water Discharge:**
 - The Amazon releases high amounts of freshwater into the **Atlantic Ocean at 300,000 m³ per second**.
 - It accounts for **one-fifth of the total volume of freshwater entering the oceans globally**.
- **Tributaries:**
 - It has **more than 1,100 tributaries**, of which **seventeen measures over 1,500-kilometers long**.
 - Notable tributaries include the **Rio Negro, the Madeira River, and the Xingu River**, among many others.
- The **Amazon Rainforest**, which represents about **half of the Earth's remaining rainforest**, also constitutes its **single largest reserve of biological resources**.
- It is sometimes referred to as the "lungs of the Earth" due to its role in regulating the planet's oxygen and carbon cycles. [\[Geography\]](#)

Clarification of CBST on Angel tax for start-ups

Why in news?

- Amid notices being sent to start-ups, the Central Board of Direct Taxes (CBST) has stepped in.
- It has directed its officers to not carry out scrutiny of angel tax provisions for start-ups **recognised** by the Department for Promotion of Industry and Internal Trade (DPIIT).

What is Angel Tax?

- Angel Tax is a term basically used to refer to the income tax payable on the capital raised by unlisted companies via the issue of shares through off-market transactions.
- This tax is levied on the capital raised via the issue of shares by unlisted companies from an **Indian investor/ foreign investors from certain countries** if the share price of issued shares is seen in excess of the fair market value of the company.
- The excess realization is considered as income and therefore, taxed accordingly.
 - E.g., If the fair market value of a start-up share is Rs 10 apiece, and in a subsequent funding round they offer it to an investor for Rs 20, then the difference of Rs 10 would be taxed as income.
- Angel tax gets its name from the wealthy individuals ("angels") who invest heavily in risky, unproven business ventures and start-ups, in the initial stages when they are yet to be recognised widely.

What is the rationale behind introducing Angel Tax?

- Rule related to Angel Tax is described in Section 56(2)(viib) of the Income Tax Act, 1961.
- This clause was inserted into the act in 2012 to prevent laundering of black money, round-tripping via investments with a large premium into unlisted companies.

Budget 2023-24 and Angel Tax

- Investments that used to fall under the ambit of Angel Tax before the introduction of Budget 2023-24
 - Before budget 2023-24, angel tax was imposed **only on investments made by a resident investor**.
 - e., it was not applicable in case the investments are made by any non-resident or venture capital funds.
 - Allaying the concerns of the startup community, the govt had also exempted investments made by the **domestic investors** in companies approved by an inter-ministerial panel from Angel Tax.
 - i.e., Government recognised startups, upon meeting certain criteria, were exempted from this tax.
- **Changes introduced in Budget 2023-24 with respect to angel tax**
 - The Finance Bill, 2023 has proposed to amend Section 56(2) VII B of the Income Tax Act.
 - With this, the government has proposed to include foreign investors in the ambit.
 - That means when a start-up raises funding from a foreign investor, that too will now be counted as income and be taxable.
 - However, these foreign investors will not need to pay any angel tax while investing in a government-recognised startup in India — similar to the provision for domestic investors. Either of domestic or overseas investors investing in a DPIIT-registered startup will not attract the so-called angel tax.
- **Rate of tax**
 - Currently, angel tax is levied at the rate of 30.6 per cent.

Recent notifications regarding the angel tax

What's in today's article?

- **Exemptions given to investors from 21 countries**
 - In May 2023, the [Finance Ministry had exempted investors from 21 countries](#) including the US, UK and France from the levy of angel tax for non-resident investment in unlisted Indian start-ups.
 - However, the list excluded investment from countries like Singapore, Netherlands and Mauritius.
- **Final valuation rules for foreign and domestic investors**
 - In September 2023, the Finance Ministry notified final valuation rules for foreign and domestic investors into unlisted companies such as start-ups under the new angel tax mechanism.
 - The rules had accounted for the industry's calls by addressing an additional sub-clause of **compulsorily convertible preference shares (CCPS)**.
 - CCPS are a type of preferred stock that can be converted into a fixed number of equity shares of the issuing company after a specified date.
 - It stated that the valuation of CCPS can also be based on the fair market value of unquoted equity shares.

[News Summary: Clarification of CBDT on Angel tax for start-ups](#)

- The tax department has asked its field officials to **not do verification** for the "**recognised**" start-ups for cases pertaining to Section 56 (2) (viib) of the Income-tax Act.
 - There are 99,380 startups **recognised** by the DPIIT.
- Besides, in cases where proceedings are auto generated, contentions of such **recognised** startup companies on the issues will be summarily accepted.
- However, they may be subject to verification for other taxation issues.
- This clarification by the tax department comes after many startups had raised concerns about receiving scrutiny notices for angel tax.
 - Many startups received notices under Section 56(2)(viib). They were asked to furnish income tax returns (ITRs) of their stakeholders for the past three consecutive years. [Economics](#)

Marshall Islands

The United States recently signed a new 20-year agreement on economic assistance to the Marshall Islands worth \$2.3 billion.



About the Marshall Islands:

- The **Republic of the Marshall Islands (RMI)** is located in the **western Pacific Ocean**.
- It is a **chain of five volcanic islands and 29 coral atolls**.
- **Capital: Majuro**
- **Official languages: English and Marshallese**
- **Government:**
 - It is a **presidential republic with a parliamentary system**.
 - The **President of the Marshall Islands is both the head of state and the head of government**.
- **Economy: Agriculture and tourism** are the mainstays of the economy.
- **Official currency: US dollar**
- In 2018, RMI became the **first country to issue its own cryptocurrency and certify it as legal tender**.

- **History:**
 - The islands have been **under the control of various nations** throughout the last few centuries, including **Spain from the late 1400s to the late 1800s, Germany from 1885 to World War I, and Japan from 1914 to World War II**.
 - **After World War II, the RMI became a part of the United Nations (UN) Trust Territory** of the Pacific Islands under the **United States (US) administration**.
 - The **RMI Government was officially established in 1979**, following the signing of the Constitution.
 - The **RMI gained its independence in 1986** after signing the **Compact of Free Association with the US**, ending the UN-US Trusteeship Agreement.
- **Compact of Free Association with the United States:**
 - **It provides** the Marshall Islands with **financial assistance, defence protection, and access to U.S. government programs**.
 - The Compact **recognises RMI's right to self-government** and seeks to promote economic development and budgetary self-reliance.
 - The **United States has full authority and responsibility for security and defence of the Marshall Islands**. [Geography](#)

Delhi excise policy case – Can a political party be booked for money laundering?

[Why in news?](#)

- The Enforcement Directorate (ED) told the Supreme Court that it is contemplating adding the Aam Aadmi Party (AAP) as an accused in its money laundering probe linked to the Delhi government's now-scrapped excise policy.
- ED said that it is planning to invoke **Section 70** of the Prevention of Money Laundering Act to probe the role of AAP in this regard.
- Main allegation of the ED is that AAP was the recipient of the proceeds of crime in the excise scam.

[What's in today's article?](#)

- Prevention of Money Laundering Act, 2002
- Laws under which a political party can be booked for money laundering
- Challenges faced by EC if a political party is accused of money laundering

[Prevention of Money Laundering Act, 2002](#)

- The Prevention of Money Laundering Act (PMLA), 2002 was enacted in January, 2003.
- The Act seeks to combat money laundering in India and has three main objectives –
 - To prevent and control money laundering
 - To confiscate and seize the property obtained from the laundered money
 - To deal with any other issue connected with money laundering in India.
- **Sec. 3** of the Act defines offence of money laundering as –
 - whosoever directly or indirectly attempts to indulge or knowingly assists or knowingly is a party or is actually involved in any process or activity connected with the proceeds of crime and

- projecting it as untainted property shall be guilty of offence of money-laundering.
- The Act was amended by the **Prevention of Money Laundering (Amendment) Act, 2009** and by the **Prevention of Money Laundering (Amendment) Act, 2012**.
- Most recently, the PMLA was amended through the -
 - Finance Act, 2015
 - Finance Act, 2018
 - Finance Act, 2019

Laws under which a political party can be booked for money laundering

- Section 70 of the Prevention of Money Laundering Act (PMLA) deals with offences by companies.
 - Section 70 of the PMLA 2002 states that if a **company** commits a contravention of any provision of the Act, every person who was in charge of the company's business at the time of the contravention is also liable.
 - The provision to Section 70 states that the person in charge of the company's business can defend themselves by proving that the contravention took place without their knowledge or despite all due diligence.
- The political party is not a 'company' incorporated under the Companies Act 2013.
- However, the provision of PMLA under Section 70 has crucial explanation that could bring political party under the ambit of the anti-money laundering law.
 - Explanation -For the purposes of this section (i.e., Section 70 of PMLA) says that company means any body corporate and includes a firm or other association of individuals.
 - The phrase 'association of individuals' can include political parties.
 - A party, according to **Section 29A of The Representation of the People Act**, is any association or body of individual citizens of India registered with the EC and calling itself a political party.

Has a political party ever been booked for money laundering?

- If AAP is directly named as an accused in the excise scam under the PMLA, it would be the first instance of political party being accused in money laundering.
- However, political parties have been booked and investigated under the Income Tax act.

Challenges faced by Election Commission if a political party is accused of money laundering

- Suspend or withdraw a party's recognition under The Election Symbols (Reservation and Allotment) Order**
 - If a political party is made an accused in money laundering, it will place the Election Commission (EC) in uncharted territory.
 - This is because there is no prescription in the electoral rules and laws on what should be done when a political party is accused of any illegality.
 - As per experts, the EC is, at best, empowered to suspend or withdraw a party's recognition under The Election Symbols (Reservation and Allotment) Order.

- However, even then, **Para 16A of the Symbols Order** clearly outlines the grounds on which the Commission can take such action against a party.
- It is when the party fails to observe the Model Code of Conduct or does not follow the orders and instructions of the Commission.
- There is nothing on what should happen if the party is accused of illegality.
- De-register a party**
 - The second punitive option before the Commission is to de-register a party. But this is an extremely limited option.
 - While **Section 29A of The Representation of the People Act, 1951**, empowers the EC to register a party, it can review its decision only under three exceptions.
 - First, if the party has obtained its registration by fraud.
 - Second, if the party informs the EC that it has ceased to have faith and allegiance to the Constitution of India or to the principles of socialism, secularism and democracy or it will not uphold the sovereignty, unity and integrity of India.
 - Third, if the party is declared unlawful by the Union Government under the provision of the Unlawful Activities (Prevention) Act, 1967 or any other similar law.
 - So, analysts believe, if a political party were to be named or even convicted under the PMLA, the Representation of the People Act has no provision to deal with it. [Polity & Governance]

What is Niobium?

The Union Cabinet recently approved royalty rates in respect of three critical and strategic minerals, namely, lithium, niobium, and Rare Earth Elements.



About Niobium:

- It is a **rare, soft, malleable, ductile, gray-white metal**.
- Atomic symbol: Nb**
- It has a **body-centered cubic crystalline structure**.
- It must be placed in a protective atmosphere when processed at even moderate temperatures because it **tends to react with oxygen, carbon, the halogens, nitrogen, and sulphur**.
- Melting point: 2,477 degrees Celsius**
- Boiling point: 4,744 degrees Celsius**
- In air, an **oxide layer forms** over it, whose colour depends on its thickness. Shades of **blue, green, and yellow** are typical.
- Niobium **resists corrosion** due to the oxide film.
- The metal **starts to oxidise rapidly in the air at 200 degrees Celsius**.
- The metal is **inert to acids**, even to aqua regia at room temperature, but is attacked by hot, concentrated acids, and especially by alkalis and oxidizing agents.
- It is one of the five major refractory metals (metals with very high resistance to heat and wear).
- It has the property of becoming **superconducting at low temperatures**.
- Sources:**
 - It is not found free in nature but in minerals such as columbite and tantalite.

- Commercially, niobium is **extracted by first forming the oxide** (Nb_2O_5). The **oxide is then reduced using carbon or hydrogen**.
- **Major Producers:** **Brazil** is the world's largest supplier, with **Canada** a distant second.
- **Applications:**
 - It is used for the **production of high-temperature-resistant alloys** and **special stainless steels**.
 - It is also used in its pure form to **make superconducting accelerating structures for particle accelerators**.
 - Niobium alloys are **used in surgical implants** because they do not react with human tissue.
 - **Niobium carbide is used in cutting tools**.
 - **Niobium-tin and niobium-titanium alloys are used as wires for superconducting magnets capable of producing exceedingly strong magnetic fields** Geography

IIPS & NFHS

Why in News?

- A set of complaints against the functioning of the International Institute of Population Sciences (IIPS) set off an inquiry by the Union government.
- This inquiry led to the resignation of the director of the IIPS, Prof K S James.

What's in Today's Article?

- About IIPS (History, Objectives)
- About NFHS (Purpose, NFHS-5 Highlights)
- About ESCAP Region

About International Institute of Population Sciences (IIPS):

- The International Institute for Population Sciences (IIPS) serves as a regional Institute for Training and Research in Population Studies for the **ESCAP region** (explained later in the article).
- It was established in Mumbai in July 1956 as a joint sponsorship of Sir Dorabji Tata Trust, the Government of India and the United Nations.
- In 1985, it was declared as a 'Deemed to be University' under Section 3 of the UGC Act, 1956.
- The Institute is under the administrative control of the Ministry of Health and Family Welfare, Government of India.

Objectives of IIPS:

- To train persons from India and other countries in demography and related fields, including demographic aspects of family planning.
- To undertake scientific research on population problems which are of special importance to India and other countries in the ESCAP region.
- To collect, organize and disseminate demographic information about the population of India and other countries of the world.
- The Ministry of Health and Family Welfare designated IIPS as the nodal agency, responsible for providing coordination and technical guidance for the National Family Health Survey.

About National Family Health Survey (NFHS):

- The National Family Health Survey (NFHS) is a large-scale, multi-round survey conducted in a representative sample of households throughout India.
- The first National Family Health Survey (NFHS-1) was conducted in 1992-93. Subsequent NFHS' were conducted as below –
 - NFHS-2 was conducted in 1998-99
 - NFHS-3 was conducted in 2005-06
 - NFHS-4 was conducted in 2015-16
 - NFHS-5 was conducted in 2019-21
- The main objective of successive rounds of the NFHS has been to provide reliable and comparable data relating to health and family welfare and other emerging areas in India.
- Nodal Ministry: Ministry of Health & Family Welfare

Major Highlights of NFHS-5:

- Report of the NFHS-5 was released in 2022.
- The report comprises of detailed information on key domains of population, health and family welfare; fertility; family planning; infant and child mortality; maternal and child health; nutrition and anaemia; morbidity and healthcare; women's empowerment etc.
- **Key results from NFHS-5 –**
 - The **Total Fertility Rates** (TFR), an average number of children per women, has further declined from 2.2 to 2.0 at the national level between NFHS-4 & 5.
 - Overall **Contraceptive Prevalence Rate** (CPR) has increased substantially from 54% to 67% in the country.
 - **Institutional Births** have increased substantially from 79 percent to 89 percent in India.
 - **Stunting** has reduced from 38.4% to 35.5%, **wasting** from 21.0% to 19.3% and **underweight prevalence** is down from 35.8% to 32.1%, according to the data.
 - Stunting is defined as low height-for-age.
 - Wasting is defined as low weight-for-height.
 - Women (15-49 years) whose **BMI** is below normal has reduced from 22.9% in NFHS-4 to 18.7% in NFHS-5.
 - Body mass index (BMI) is a measure of body fat based on height and weight that applies to adult men and women.

About ESCAP Region:

- The United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) is one of the five regional commissions under the jurisdiction of the United Nations Economic and Social Council. It was established in **1947**.
- **Objective:** To overcome some of the region's greatest challenges by providing results-oriented projects, technical assistance and capacity building to member States.
- The commission is composed of **53 Member States** and 9 Associate members, mostly from the Asia and Pacific regions.
- The region covered by the commission is home to 4.1 billion people, or two-thirds of the world's population.
- **Headquarters:** Bangkok, Thailand **Social Issues**

Bolstering Bilateral Ties Between India and Sri Lanka: After 40 years, India Sri Lanka Ferry Services Restarted

Why in News?

- An age-old sea route between India and Sri Lanka has been rejuvenated with the inauguration of a passenger ferry service - a High Speed Craft, named '**Cheriyapani**', from Nagapattinam (TN) to Kankesanthurai in Jaffna, Northern Sri Lanka.
- The initiative is aimed at bolstering bilateral ties, boosting tourism, increasing people-to-people relations and is expected to benefit local traders on both shores.

What's in Today's Article?

- Maritime Linkage Between India and Sri Lanka
- Potential Impact of the New Service
- Operational Challenges

Maritime Linkage Between India and Sri Lanka:

- The Indo-Ceylon Express or Boat Mail** - a train - ran between Chennai and Colombo via the Thoothukudi port from the early 1900s up until 1982.
 - Passengers from Chennai would get onto the train and then transfer to a coal-powered steam ferry in Dhanushkodi, which would take them to Talaimannar in roughly two hours.
 - However, the civil war in Sri Lanka resulted in the halting of these services.
- The resumption of ferry services** has been on the cards for quite some time, especially after the war ended in 2009.
- A MoU concerning passenger transportation** by sea was signed in 2011 and a similar service was launched.
 - However, it did not last for more than six months due to poor response.
- Attempts were also made to establish services from Rameswaram to Talaimannar and Karaikal to Kankesanthurai. Various challenges kept these proposals from materialising.

Potential Impact of the New Service:

- By providing a transportation option, the ferry **can amplify religious tourism** in the coastal regions of both countries.
- From India, **travellers can access significant religious sites in Colombo** and the southern parts of Sri Lanka.
- Indian pilgrim centres** such as Nagapattinam, Nagore, Velankanni, Thirunallar, and temple towns such as Thanjavur, Madurai, and Tiruchi are expected to see an influx of Lankan tourists.
- Beyond religious tourism, the services would **boost regional commerce and trade**.
- Anticipating the influx of travellers, the state government of Tamil Nadu is **ramping up infrastructural developments**.
 - For example, the Nagapattinam port, under the Tamil Nadu Maritime Board, was upgraded recently with funds worth Rs 8 crore from the Union Ministry of External Affairs.
- Launching the service, the Indian PM said that connectivity is not only about bringing two cities closer but also **brings two countries, its people closer**.
- Sri Lankan President called the revival of the ferry service an **important step towards strengthening connectivity between India and Sri Lanka**.

Operational Challenges:

- The Shipping Corporation of India's (SCI) initial plan to run services every day for 10 days has been rescheduled to operate thrice a week.
- While the onset of the northeast monsoon is one of the reasons being cited, sources at Nagapattinam port said the **ticket fare (~Rs 7,670)** and **poor ticketing systems** are also a challenge.
- Therefore, the ticket rates should be reduced and booking should be made available on popular travel sites if the service is meant to succeed. **International Relations**

Rau's

Angel Tax & Indian economy

UPSC Syllabus: Prelims
Sub Theme: Key facts | UPSC

Context

India is likely to grow at a faster-than-expected pace despite the conflict in West Asia. This is because of a near normal monsoon, the government's thrust on capital spending and increase in credible borrowings.

Model Question. With reference to the Indian economy, consider the following statements:

- GDP deflator is the ratio of nominal GDP and inflation of the corresponding year.
 - Capital expenditure are long-term investments that may lead to higher nationwide GDP.
 - Periods of slow economic growth in the last decade witnessed a fall in credit growth.
- How many of the statements given above is/are correct?
- (a) Only one
 - (b) Only two
 - (c) All three
 - (d) None

Answer: (b)

Statement 1 is incorrect: The ratio of nominal to real GDP is a well known index of prices. This is called GDP Deflator. Thus if GDP stands for nominal GDP and gdp stands for real GDP then, **GDP deflator = GDP/gdp**.

Statement 2 is correct: In general, economic growth occurs as a result of increases in the production of goods and services. Increased consumer spending, increased international trade, and businesses that increase their investment in capital spending can all impact the level of production of goods and services in an economy.

Capital investments are long-term investments; they allow companies to generate revenue for many years by adding or improving production facilities and boosting operational efficiency.

An increase in capital investment allows for more research and development in the capital structure.

Additional or improved capital goods are intended to increase labour productivity by making companies more productive and efficient. Newer equipment or factories leads to more products being produced, and at a faster rate. As a result, more products can be produced at a lower cost, and with faster turnaround times; this can increase the company's profits.

As labour becomes more efficient, this increased efficiency nationwide leads to economic growth for the entire country and a higher nationwide GDP.

Statement 3 is correct: Credit growth has always been closely linked to the pace of economic growth. During the high growth periods between 2004-05 and 2007-08, when growth in GDP was a robust 8-9 per cent, credit demand had been strong. Bank credit then grew by 25-30 per cent year-on-year, at about three times the real GDP growth. As **GDP growth fell, credit growth too slipped to 14-16 per cent levels in 2011-12 and 2012-13**.

Context

The Central Board of Direct Taxes (CBDT) has instructed field officials not to carry out scrutiny of startups recognised by the Department for Promotion of Industry and Internal Trade (DPIIT) for angel tax provisions as amended in Budget 2023-24. This clarification by the tax department comes after many startups had raised concerns about receiving scrutiny notices for angel tax.

Model Question. Consider the following statements about Angel Tax:

- Angel Tax is the tax that any unlisted company is required to pay on the capital they raise through the issue of shares.
 - Funds raised from a foreign investor falls outside the ambit of angel tax.
- Which of the statements given above is/are correct?
- (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2

Answer: (a)

Explanation:

Statement 1 is correct: Angel tax refers to the income tax (30.6 %) imposed on any unlisted company (usually startup enterprises) in receipt of investment which is above the fair market value. Such investment is treated as income from other sources for the tax purpose. This tax was introduced in 2012 in the form of Section 56 (2) of the Income Tax Act to plug money laundering practices.

Statement 2 is incorrect: Earlier, angel tax provisions were applicable only for investments received from resident investors. However, Finance Act 2023 has extended its applicability to non-resident investors as well.

India-Sri Lanka ferry service restarted

UPSC Syllabus: Mains: Geography Sub Theme: Key facts | UPSC

#Preliminary#Mains Geography

International relations.

Practice Question

With reference to recently launched ferry service between India and Sri Lanka, consider the following statement.

- 1.This is the first initiative taken to boost India-Sri Lanka maritime connectivity.
- 2.It will connect Nagapattinam in Sri Lanka to Kancesanthurai in India.
- 3.It will boost tourism, exports, and people to people relations.

Choose the correct statement:

- (A) 3 only
- (B) 1 and 2
- (C) 1 and 3
- (D) 2 and 3

A option is correct i.e. 3 Only

1st statement is incorrect: Maritime linkage between India and Sri Lanka is not new.

Earlier

India-Ceylon Express (Boat Mail) ran between Chennai and Colombo via Thoothukudi port from early 1900 up until 1982, the service is halted due to Civil war in Sri Lanka.

Another popular route was from Dhanushkodi to Talaimannar.

2nd Statement is incorrect: Nagapattinam is in India whereas Kancesanthurai in Jaffna, Northern Sri Lanka.

3rd statement is Correct: It can amplify religious tourism in coastal region of both countries. Pilgrim Centers like Nagapattinam, Nagore, Thirunallar, Thanjavur, Madurai and Tiruchi will attract pilgrims from Sri Lanka.

It will boost regional commerce and trade.

| The Indian Himalayan Region needs its own EIA

UPSC Syllabus: Mains: Disaster management

Sub Theme: Key facts | UPSC

Primary source – The Hindu

Secondary source – Ministry of environment, forest and climate change.

Context - The Teesta dam breach in Sikkim in early October and the recent floods and landslides in Himachal Pradesh are a stark reminder of the havoc our development model is wreaking on our environment and ecology especially in the mountains. It is imperative to assess the worthiness of any significant human endeavour in terms of its impact on the environment.

Environment Impact Assessment (EIA)

- It is a planning tool to integrate the environmental concerns into developmental process right at the initial stage of planning and suggest necessary mitigation measures.
- EIA essentially refers to the assessment of environmental impacts likely to arise from a project.
- Section 3 of the Environment (Protection) Act 1986 (EPA) gives power to the Central Government to take all measures that it deems necessary or expedient for the purpose of protecting and improving the quality of the environment and preventing and controlling abating environmental pollution. Mandate for EIA has been under this section.

United Nations Environment Programme (UNEP) defines EIA as a tool to identify the environmental, social, and economic impacts of a project before it is implemented. This tool compares various alternatives for the proposed project, predicts and analyses all possible environmental repercussions in various scenarios. The EIA also helps decide appropriate mitigation strategies.

Evolution of EIA in India:

- In India, a precursor to the EIA began in 197677 when the Planning Commission directed the Department of Science and Technology to assess the river valley projects from the environmental point of view. It was later extended for all those projects that required approval from the Public Investment Board. Environment clearance then was just an administrative decision of the central government.
- On January 27, 1994, the Union Ministry of Environment, Forests and Climate Change under the Environment (Protection) Act 1986 (EPA), promulgated the first EIA notification making Environmental Clearance (EC) mandatory for setting up some specified new projects and also for expansion or modernization of some specific activities.
- The notification of 1994 saw 12 amendments in 11 years before it was replaced by the EIA 2006 notification.
- The hallmark of the 2006 notification was the decentralization of the process of EC. State governments were also given powers to issue EC in certain cases.
- The 2006 notification has also been amended, in the name of finetuning the process several times.
- The Union Ministry of Environment, Forests and Climate Change floated a draft EIA in 2020 for public comments which created quite a furore as it was perceived to be pro industry and compromising the ecological concerns.

EIA Process:

EIA has four stages: screening, scoping, public consultation, and appraisal.

The EIA process comprises of the following:

- a) Screening

The screening can be either project related or site related. These are briefly described as under:

i) **Project related** – This would determine the threshold value of cost, size and pollution levels

ii) **Site related** – This is based on the assimilative capacity of the project area. The following factors are kept in view while carrying out site related screening

- A) Avoid environmentally sensitive areas
- B) Avoid conflict with existing policies, plans & legislation.
- C) Avoid conflict with desirable land use e.g. prime agricultural land

b) Scoping

Scoping is carried out with the following objectives:

- a) To determine depth of analysis
- b) To formulate Terms of Reference
- c) To identify *prima facie* major/minor environmental issues involved
- d) To determine geographical boundaries of the study
- e) Gives an idea about the format for Environmental Impact Statement

c) Rapid and Comprehensive EIA

The EIA can either be rapid or comprehensive as under:

- i) **Rapid EIA** – This is the first level indication of the environmental issues of the readily available data as utilised for this purpose.
- ii) **Comprehensive EIA** – This uses inputs from the rapid EIA. Steps involved are: identification, prediction, evaluation of the possible environmental impacts.

d) Mitigative Measures

It comprises of a strategy devised to prevent, reduce and compensate the impacts of the project. The monetary assessment of the mitigative measures is also to be carried out to include into the project cost.

e) Environmental Management Plan (EMP)

This contains details of the management measures to be adopted. It narrates the key agencies/persons which would be responsible for the implementation of the plan. It also includes Disaster Management Plan.

f) Environmental Impact Statement (EIS)

It is a gist of the whole exercise for getting environmental clearance and also for information of the general public.

g) Post-Clearance Monitoring (PCM)

This is carried with a view to ensure the effective implementation of the mitigative measures.

Why Himalayas need different EIA?

- Natural Vulnerability to multiple disasters like floods, GLOF, Earthquake, Landslides etc.
- One of the most ecologically fragile regions of India. Also a part of Global biodiversity hotspot.
- Source of freshwater to entire South Asian region supporting agriculture, industries and households.
- Increasing human pressure on account of increasing tourism, urbanization, deforestation, change in land use etc.
- Climate change has added further layer of vulnerability to this ecosystem.

Hence, The needs of these mountains could be addressed at all four stages of the EIA — screening, scoping, public consultation, and appraisal.

What are the issues with eia process?

- **Conflict of Interest:** EIA is funded by the same agency which is implementing the project and hence the primary concern of that agency is to obtain clearance.
- **Discretion in the hands of state government:** The problem is that categorising the projects is in the hands of state level committees and these committees are formed by the state governments.
- **EIA reports are plagiarised and often spread misinformation:** Many a times EIA reports are plagiarised. EIA reports of one project is copied and pasted into other defeating the whole purpose. There is also a lack of scientific approach in the way report is prepared. Moreover, since there is no process for punishing the agencies tabling such dishonest EIA reports, there is no deterrence for such acts.
- **Poor quality of EIA professionals:** The individuals involved in the process lack knowledge in the field of environment and ecology.
- **Issues related to public hearing:**
 - o Lack of awareness among local people about EIA process.
 - o Notification issues due to publication of EIA process in the local newspaper and not in every panchayat. Most of the times local people are unaware of the Public hearing meetings.
 - Unavailability of EIA in local languages affects the capacity of most of the rural people to participate in the process.
 - The issues raised by people in public hearings remains unanswered and they do not know what happens to the issues, nor do they know if the issues raised are reflected in public hearing reports that is presented to Ministry of Environment and forests.
- **Lack of larger outlook while conducting EIA:** EIA remains focused on very small aspect of the projects and do not assess the overall impact on ecology.

Suggestion/ Way ahead?

1. Independent EIA Authority

- Which will be responsible for conducting/regulating EIAs.
- There is a need for Sector wide EIAs.
- It is vital that the EIA be prepared without the involvement of the project proponent.

2. Applicability:

- Without exception, all projects that are expected to have a substantial impact on ecosystems must go through the environmental clearance process.
- No industrial developmental activity should be permitted in ecologically sensitive areas.

3. Public hearing:

- All previously exempt categories of projects with environmental consequences should be subject to public hearings.
- The focus of EIA should change from natural resource consumption and exploitation to natural resource conservation.

4. Grant of clearance:

The notification should state explicitly that the provision for site clearance does not mean that the effect Assessment agency will provide full environmental clearance.

5. Composition of expert committees:

The present executive committees should be replaced by expert people from various stakeholder groups, who are reputed in environmental and other relevant fields.

6. Monitoring, compliance and institutional arrangements:

- The EIA notification should include an automatic withdrawal of clearance if the requirements of clearance are not met, as well as more severe penalties for noncompliance. Currently, EIA notification is limited to the point at which environmental clearance is granted.

- The composition of the NGT needs to be changed to include more judicial persons from the field of environment.
 - Citizen should be able to access the authority for redressal of all violation of the EIA notification as well as issues relating to non-compliance.
7. **Capacity building:**
- NGOs, civil society groups and local communities need to build their capacities to use the EIA notification towards better decision making on projects.
 - Dissemination of all information related to projects from notification to clearance to local communities and the public

UPSC PYQ - 2014

Environmental impact assessment studies are increasingly undertaken before project is cleared by the government. Discuss the environmental impacts of coal-fired thermal plants located at Pitheads.

Practice mains question:

Environmental impact assessment (EIA) plays an important role in balancing economic and environmental interests. How far do you think that EIA process in India is able to achieve this? Suggest strategies to improve the EIA process. (15 marks, 250 words)

Sir Syed Ahmad Khan |

UPSC Syllabus: Mains: International relations Sub Theme: Key facts | UPSC

Sir Syed Ahmad Khan

Generals Studies I #Personalities #Modernhistory #Reformmovement

#Prelimsnuggets

Primary Source: The Indian Express

Context: The passing of the Women's Reservation Bill coincided with the 125th birth (October 17) anniversary of Sir Syed Ahmad Khan, known for propagating social reforms among the Muslim community.

The article delves into his views regarding educational reforms for the women in the Muslim community:

- Despite showing inclination for liberal values and rationality, his views on education to be imparted to women had been controversial.
- Syed Ahmad Khan believed the ultimate goal for women is marriage and therefore, training for them should focus on familial duties. For women's education he believed in a "**Disorganised home-based tutor education**".
- However, later he was convinced that the "**rejection of women's education by Muslims played a big role in the decline of the community**" in comparison to others.



About Sir Syed Ahmad Khan (1817-1898):

- Educated in Quran and Western Sciences.
- During the 1857 revolt, he was affected by the defeat of the Mughal Empire. As a result, he wrote a profound booklet '**'Asbab-e-Baghawat-e-Hind'** (Reasons for Indian Revolt of 1857) which cited British ignorance, aggressive expansion policies and non-admission of Indians into Legislative Council of India as a prime cause of antagonism.
 - This was one of the motivations behind the **inclusion of non-official Indian members to the Viceroy's Council in 1861**.
- He advocated interfaith understanding and wrote '**Commentary on Holy Bible**'. He advocated for the *learning of English and western education among the Muslims*.

Educational and Social Contributions:

- Stressed modern scientific education for Muslims to advance their conditions as he was against superstition and evil customs prevalent in society then. He believed that Muslim society could move ahead only if rigid orthodoxy was abandoned and pragmatism was adopted.
- Set up many educational institutes to propagate education, **the most significant being the Muhammadan Anglo-Oriental College (MAOC) in 1875**, which later became Aligarh Muslim University. The MAOC was instrumental in Aligarh Movement of 19th century which was an important movement of a renaissance among Indian Muslims. It was proposed that here, while modern education would be imparted to the Muslims, they would be able to have some training in the preservation of their cultural heritage. *It is interesting to note that while MAO College was founded for Muslims, its doors were open to all.*
- He founded the **Scientific Society of Aligarh in 1863**, modelling it on the Royal Society of England. This society held annual conferences and published and distributed scientific material in English and Urdu.
- The Aligarh Institute Gazette, a multilingual journal** started by him campaigned against female infanticide, polygamy, child marriage, sati, segregation of widows, and poverty-induced marriages of young girls with older men.
- Syed's progressive social ideas were propagated through his magazine **Tahdhib-ul-Akhlaq (Improvement of Manners and Morals)**.

Political Career:

- Nominated to Viceroy's Legislative Council in 1878.

- Supported Dadabhai Naoroji and Surendra Nath Banerjee in obtaining representation for Indians in the government and the civil services.
- Received Order of Star of India from British government, in 1869.
- Received knighthood by the British in 1888.

Controversy:

- Was wary of rising Indian nationalism as he thought power would pass into the hands of Hindus alone. He advocated for Muslims to have loyalty towards British rule in India. In his own words, "We do not want to become subjects of Hindus, instead of the subjects of people of Book".
- Due to such ideologies, he is sometimes called as originator of the Two Nation Theory. However, this is a wrong interpretation of his ideas as his prime aim was reform, rationalism, and modernisation among Muslims.

It is important to remember that in a country such as India where diversity of all hues existed for such a long time, religious communities were no exception. Every community threw up diverse options keeping in mind the class, linguistic, regional and other backgrounds in mind. After all Sir Syed was not preaching any hatred between communities. However his major concerns were to promote the interests of the Muslims at large particularly the established groups.

Practice Question for Prelims:

Q. Consider the following statements:

Statement-I: Sir Syed Ahmad Khan advocated for active political participation of the Muslim community.

Statement-II: Sir Syed Ahmad Khan wanted to promote the educational and employment interests of Muslim community by remaining loyal to the colonial Government.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I.
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I.
- (c) Statement-I is correct but Statement-II is incorrect.
- (d) Statement-I is incorrect but Statement-II is correct.

Answer: (d)

Statement I is incorrect: Syed Ahmad Khan argued that Muslims should first concentrate on education and jobs and try to catch up with their Hindu counterparts who had gained the advantage of an early start. **Active participation in politics at that point, he felt, would invite hostility of the government towards the Muslim masses. Therefore, he opposed political activity by the Muslims.**

Statement II is correct:

- The British view on the revolt of 1857 held the Muslims to be the main conspirators. This view was further strengthened by the activities of the Wahabis.
- But later, an opinion got currency among the rulers that the Muslims could be used as allies against a rising tide of nationalist political activity represented**, among others, by the foundation of the Indian National Congress.
- This was to be achieved through **offers of thoughtful concessions to the Muslims**. A section of Muslims led by Syed Ahmed Khan (1817-1898) was ready to allow the official patronage to stimulate a process of growth among Indian Muslims through better education and employment opportunities.
- Unfortunately, in his enthusiasm to promote the educational and employment interests of the Muslims, he allowed himself to be used by the colonial government in its obnoxious policy of divide and rule and, in later years, started propagating divergence of interests of Hindus and Muslims.

4. UPSC Current Affairs: Gaganyaan |

UPSC Syllabus: Mains: International relations

Sub Theme: Key facts | UPSC

Context: The Gaganyaan mission's Flight Test Vehicle Abort Mission-1 (TV-D1) will take place on October 21 from the Satish Dhawan Space Centre in Sriharikota, Andhra Pradesh.

Q. Consider the following statements with reference to the Gaganyaan Mission:

- It is a human spaceflight mission to launch a manned crew to geosynchronous orbit.
- The Launch Vehicle for the mission consists of a solid stage and a liquid stage.
- Integrated AirDrop Test and Pad Abort Test are precursor missions of this project. How many of the statements given above are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Answer: (a)

Explanation:

- Statement 1 is incorrect:** Gaganyaan Mission of the Indian Space Research Organisation (ISRO) aims to demonstrate India's capability to conduct human spaceflight and safe return. The mission will launch a **crew of three members** to a **low earth orbit (LEO)** of 400 kilometres for **three days** and bring them back safely to Earth, by landing in Indian sea waters.

- Statement 2 is incorrect: Launch Vehicle:** GSLV Mk III satellite, popularly known as Launch Vehicle Mark-3 (LVM3) is the launch vehicle for the Gaganyaan mission. The LVM3 rocket consists of **three stages**- solid stage, liquid stage and cryogenic stage.
- Statement 3 is correct: Various precursor missions** are being undertaken before carrying out the actual Human Space Flight mission including Integrated AirDrop Test (IADT), Pad Abort Test (PAT) and Test Vehicle (TV) flights.
The **crewed mission** is expected to be launched by December 2024. If successful, India would be the **4th country** to send a manned mission after Russia, the USA, and China.

Olympic Charter Amended by IOC Session in Mumbai | UPSC Syllabus: Mains: International relations Sub Theme: Key facts| UPSC

#GS-Paper 2, International Relations

Context: During the 141st session of International Olympic Committee being held at Mumbai (India) changes were introduced in the **Olympic Charter**, which will strengthen human rights commitments of IOC. The amendments were principally introduced in the **Fundamental Principles of Olympism**, which is a part of Olympic Charter and amendments to ensure freedom of expression of all competitors, team officials and other team personnel at the Olympic Games. India is hosting the session of IOC after a gap of 40 years (Last in 1983 in New Delhi). Prime Minister of India has announced India's candidature for hosting Olympic Games in 2036.

About Olympic Charter

- Olympic Charter is the codification of fundamental principles of Olympism and rules and bye-laws adopted by International Olympic Committee.
- Olympic Charter was first published in 1908. However, some of the rules in the first Charter were written by Pierre de Coubertin in 1894.
- It governs the organisation, actions and functioning of the Olympic Movement and establishes the conditions for celebration of Olympic Games.
- It establishes the relations between International Federations, National Olympic Committees and Olympic Movement.

About International Olympic Committee (IOC)

- IOC is an international NGO and Non-Profit Organisation headquartered in Lausanne (Switzerland).
- It is the Supreme Authority leading the Olympic Movement and the catalyst for all Olympic family members.
- IOC members, natural persons, are representatives of the IOC in their respective countries, and not their country's delegate within the IOC.
- It aims to encourage the promotion of Olympic values, to ensure regular celebration of Olympic Games and its legacy and to support all organisations affiliated to Olympic Movement.
- IOC Session is the general assembly of IOC members. It is the supreme decision making body of IOC and its decisions are final. An ordinary session of IOC is held once a year.
- Executive Board of IOC is the executive body of IOC and overlooks the general responsibility for administration of IOC and monitors compliance with Olympic Charter. It comprises of IOC President, four Vice-presidents and 10 other members, all elected by the Session.

Inclusion of a sport in Olympics

- The sports to be included in a particular edition of Olympics Games are decided by **IOC Session** from among the sports governed by International Federations (IFs) recognised by IOC.
- Only sports which comply with Olympic Charter, World Anti-Doping Code and Olympic Movement Code on Prevention of Manipulation of Competition are eligible to be included in Olympic Games.
- However, the Organising Committee of a specific edition of Olympic Games may propose to IOC the inclusion, for such edition only, of one or more additional events from the sports governed by IOC Recognised IFs.
- Thus, **Los Angeles 2028 Olympics** Organising Committee proposed inclusion of 5 games - **Cricket, Flag Football, Lacrosse, Squash and baseball-softball**. The Executive Committee of IOC has approved the inclusion of these games in the Los Angeles Olympics in 2028.
- The IOC has given its final approval for inclusion of the above five games into the Los Angeles Olympics in 2028. Thus, **enabling the inclusion of cricket for the first time in Olympic Games. The inclusion will only be for edition of Olympic Games in Los Angeles in 2028.**

Belt and road initiative |

UPSC Syllabus: Mains: International relations Sub Theme: Key facts| UPSC

Background

Historical context leading to the BRI: The historical Silk Road served as a network of trade routes connecting China to the Mediterranean. The BRI revives this concept, enhancing land and maritime connections.

Motivations and objectives: China aims to foster economic growth, create new trade opportunities, and promote international cooperation through BRI.

II. Components of the Belt and Road Initiative

1. The Silk Road Economic Belt

1.1. Infrastructure Development

Road networks: The China-Pakistan Economic Corridor (CPEC) involves constructing highways and pipelines, connecting Gwadar Port in Pakistan to western China.

Railways: The Trans-Siberian Railway connects China to Europe, significantly reducing transportation time and costs.

Ports and logistics hubs: The Port of Piraeus in Greece, acquired by China's COSCO, has been upgraded to facilitate maritime trade.

1.2. Trade and Investment

Trade corridors: The Khorgos Gateway on the China-Kazakhstan border facilitates trade and transit of goods between China and Europe.

Investment projects: China has invested in infrastructure projects worldwide, such as the Jakarta-Bandung high-speed rail in Indonesia.

1.3. Energy Cooperation

Pipelines and energy projects: The China-Russia natural gas pipeline connects Siberia to China, ensuring a stable energy supply.

Renewable energy initiatives: The Belt and Road has funded solar and wind projects in countries like Pakistan and Kazakhstan.

2. The 21st Century Maritime Silk Road

2.1. Maritime Infrastructure

Ports and shipping routes: The Hambantota Port in Sri Lanka, operated by China Merchants Port Holdings, enhances maritime connectivity.

Coastal development: Chinese investments have spurred the growth of the Gwadar Port in Pakistan.

2.2. Trade and Maritime Connectivity

Shipping lanes and corridors: The BRI connects Southeast Asia to East Africa through maritime routes.

Free trade zones and maritime cooperation: The China-Belarus Great Stone Industrial Park promotes trade and investment between China and Europe.

2.3. Marine Resources and Environmental Sustainability

Fisheries cooperation: China engages in fishery agreements with countries like Ecuador. Environmental protection: Projects such as the China-Pakistan Clean Energy Initiative promote sustainability.

III. Participating Countries

1. Major Players

China's role and interests: China seeks to enhance its global influence, while benefiting from expanded markets and resources.

Regional powers (e.g., Russia, India): Russia's Trans-Siberian Railway is part of BRI, and India has concerns about China's growing influence in its neighborhood.

2. Asian Countries

Southeast Asia: Countries like Malaysia and Thailand are involved in infrastructure projects, benefiting from enhanced trade routes.

Central Asia: Kazakhstan and Uzbekistan serve as key transit nations for BRI, gaining from improved infrastructure.

South Asia: Pakistan's CPEC is a flagship project, promoting economic growth.

3. Middle East and Africa

Infrastructure projects: Djibouti's Doraleh Multipurpose Port exemplifies Chinese investments in African ports.

Economic partnerships: Egypt's Suez Canal Economic Zone aims to attract Chinese investments and boost trade.

4. Europe

Transport connectivity: The China-Europe Railway Express has connected Chinese cities like Chongqing to European cities.

Trade relations: The China-Greece Piraeus Port cooperation has deepened economic ties.

5. Latin America

Investment and trade opportunities: Chinese loans and investments support infrastructure development in countries like Argentina and Brazil.

Infrastructure projects: The Nicaragua Canal project aims to rival the Panama Canal.

IV. Challenges and Controversies

1. Debt Sustainability

Analysis of debt-related concerns: Countries like Sri Lanka faced debt challenges with the Hambantota Port, leading to debt renegotiation.

Debt renegotiation and relief: China has shown flexibility in renegotiating terms, such as extending loan maturities.

2. Environmental Impact

Assessment of ecological consequences: Projects like the Laos-China Railway raised concerns about deforestation and environmental degradation.

Environmental mitigation efforts: China is increasingly emphasizing environmental standards in BRI projects.

3. Geopolitical Tensions

Impact on regional and global politics: The BRI has raised concerns about China's growing influence, resulting in geopolitical tensions.

Relations with the U.S. and other powers: The U.S. views BRI as a strategic challenge and has initiated its own Indo-Pacific strategy.

4. Transparency and Governance

Transparency in project selection: Critics argue that the selection process lacks transparency, leading to concerns about corruption and favoritism.

Anti-corruption efforts: China has made efforts to address these issues by improving transparency and governance mechanisms.

V. Benefits and Opportunities

1. Economic Growth and Development

Enhanced trade and investment: BRI projects have stimulated economic growth in participating countries, providing jobs and infrastructure.

Job creation and poverty reduction: Infrastructure projects and economic development have reduced poverty in some areas.

2. Infrastructure Development

Modernization of transport and energy networks: BRI has upgraded transportation and energy infrastructure, reducing bottlenecks.

Connectivity benefits: Countries along the routes have improved access to global markets.

3. Cultural and People-to-People Exchanges

Promoting mutual understanding: The BRI encourages cultural exchanges and educational programs.

Educational and cultural programs: The Confucius Institutes and scholarships foster people-to-people ties.

4. International Cooperation

Strengthening diplomatic ties: BRI strengthens diplomatic relations and cooperation through economic engagement.

Multilateral partnerships: China has engaged in multilateral cooperation under the framework of BRI.

VI. Future Prospects and Adaptations

1. Evolution of the Initiative

Expansion and diversification: The BRI is likely to expand to new regions and sectors, such as digital infrastructure.

Integration with other regional projects: BRI will integrate with other regional initiatives, enhancing connectivity.

2. Addressing Concerns

Debt issues and sustainability: China will continue to address debt concerns through renegotiation and improved lending practices.

Environmental safeguards: Environmental standards will play a more significant role in BRI projects.

3. Global Response

International support and criticism: Countries and international organizations will continue to either support or scrutinize BRI.

Alternative initiatives and strategies: Countries may seek alternative regional strategies, like the Quad, to balance China's influence.